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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,625

08/05/2003

Kyeong Jin Kim

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/633,625

Applicant(s)

KIM, KYEONG JIN

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18,22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicants' amendment dated 11/13/2006 has been received and entered. By the amendment, claims 11-18 and 22 are now pending in the application.

Applicant's arguments with respect to claim 11 have been considered but are moot in view of the new ground(s) of rejections as follow.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,122,024 (to Molsen et al.) in view of United States Patent 6,222,603 B1 (to Sakai et al.).

As to claim 11 (amended), Molsen teaches and discloses switchable liquid crystal devices. Molsen shows in Figure 1, a first substrate (transparent substrate 1), a second substrate (transparent substrate 4) opposing the first substrate (transparent substrate 1), a liquid crystal layer (nematic liquid crystals 8) between the first (1) and second (4) substrates, the liquid crystal having photopolymerisable material with one or more reactive groups mixed in with a non-chiral nematic liquid crystal and whereby ultraviolet radiation forms a helical polymer network (See Column 4, Lines 32-67)(Applicant's liquid crystal layer between the first and second substrates, the liquid crystal layer having a photo-reactant material and a liquid crystal, wherein the photo-reactant material and the liquid crystal form a polymer network.") and the liquid crystal material (8) is aligned in a direction different from the photo-reactant (9)(see figure 2).

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Molsen does not appear to explicitly specify first and second sealants along a periphery of one of the first and second substrates. Sakai et al. disclose a first sealant (6) and a second sealant (11) along a periphery of a pair of substrates (2). Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystal displays at the time the invention was made to modify Molsen in view of Sakai et al. to incorporate first and second sealants along a periphery of one of first and second substrates into a liquid crystal display device to contain the liquid crystal layer and improve an uniform of the cell gap (col. 6, lines 49-50).

As to claims 12-14, the sealant may include thermosetting resins, UV-cured resins, and dual active resins which can harden in the presence of UV rays as well as heating (col. 6, ln 32).

As to claim 15, Molsen et al. disclose an alignment layer for alignment of the liquid crystal layer (3/6).

As to claim 16, a black matrix, a color filter and common electrode (223) all on opposing substrate (220) is conventional elements of a color active matrix display. Therefore, it would have been obvious to one skilled in the art.

As to claim 17-18, Sakai et al. do disclose a spacer (figure 1, 4) to maintain substrate gap. It would have been obvious to one skilled in the art to employ a spacer having a columnar shape.

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,122,024 (to Molsen et al.) in view of United States Patent 6,222,603 B1 (to Sakai et al.) and further in view of United States Patent 5,872,609 (to Hiji et al.).

As to claim 22, the modification to Molsen does not appear to explicitly specify that the photo-reactant material remains uncured. Hiji teaches and discloses a light control element and method wherein a liquid crystal and photo-setting uncured material are irradiated with coherent

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light beams to result in an anisotropic gel in which orientation is periodically fixed (Column 6, Lines 14-40). Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Molsen in view of Hiji for an uncured photo-reactant material' so that an anisotropic gel could be formed with periodically fixed orientation.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

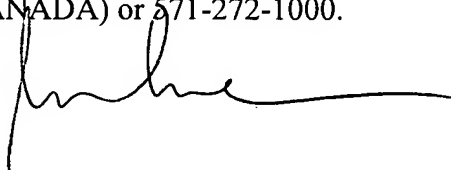
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN
08/07/2006



Dung Nguyen
Primary Examiner
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